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AUTHOR Gajar, Anna H.; And Others
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ABSTRACT

The research analyzed the effects of peer tutoring and teacher presentations about handicaps on the social acceptance of 16 mainstreamed educable mentally retarded (EMR) children (10 from primary and 6 from intermediate level classes). In addition, the effect of peer tutoring on reading achievement of EMR students was examined. Results showed that neither peer tutoring nor teacher classroom presentations had an effect on regular students' selection of EMR students on a popularity measure. It was hypothesized that the possibility of failing to pick up existing treatment effects was due to inappropriate measurement, indicating the need for further research in this area. It was also noted that regular students who did select handicapped students as the "best looking," the "best athletes," etc. were in mainstreamed classes. After participation in a peer tutoring program, EMR students exhibited increased achievement scores on the Woodcock Reading Achievement Tests, lending additional support for the establishment of peer tutoring programs in mainstreamed environments, especially at the primary levels. (Author/SBH)

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THE EFFECTS OF PEER TUTORING ON THE READING ACHIEVEMENT AND SOCIAL ACCEPTANCE OF MAINSTREAMED HANDICAPPED CHILDREN

Anna H. Gajar

Paul T. Sindelar

Sally Mascitelli

Susan Collins

The Pennsylvania State University

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Abstract

The purpose of this research was to analyze the effects of peer tutoring and teacher presentations about handicaps, on the social acceptance of mainstreamed educable mentally retarded (EMR) children. In addition, the effect of peer tutoring on reading achievement of EMR students was analyzed.

The results of the study showed that neither peer tutoring, nor teacher classroom presentations about handicapped children, had an effect on regular students' selection of EMR students on a popularity measure. It was hypothesized that the possibility of failing to pick up existing treatment effects was due to inappropriate measurement, indicating the pressing need for further research in this area. In addition, it was noted that regular students who did select handicapped students as the "best looking," the "best athletes," etc. were in mainstreamed classes.

After participation in a peer tutoring program, EMR students exhibited increased achievement scores on the Woodcock Reading Achievement Tests lending additional support for the establishment of peer tutoring programs, in mainstreamed environments; especially at the primary levels.

The Effects of Peer Tutoring on the Reading Achievement and Social Acceptance of Mainstreamed Handicapped Children

Public Law 94-142 has mandated an appropriate education for each handicapped child. The intent of this mandate has been interpreted as education in the least restrictive environment. For mildly and moderately handicapped children, least restrictive environment implies placement in mainstream classes, often with supportive special education services. In this setting, many handicapped students can function well academically, although less is known about their social adjustment (Sindelar & Deno, 1978). Research suggests that handicapped students tend to be rejected by their peers (Siperstein, Bopp, & Bak, 1978; Siperstein & Gottlieb, 1976). Therefore, positive peer interactions and acceptance of handicapped children is a major educational consideration. The purpose of this research was to compare the effects of two approaches for promoting social acceptance on the social acceptance of mainstreamed Educable Mentally Retarded (EMR) children. Nonhandicapped primary and intermediate children in both integrated and segregated classes were interviewed to determine their acceptance of handicapped peers.

Peer tutoring has been shown to be an effective instructional methodology (Devin-Sheehan, Feldman, & Allen, 1976), and it meets the criteria for a cooperatively structured instructional arrangement. Johnson and Johnson (1974) reviewed studies which assessed the effect of goal structure on achievement and adjustment. They found that cooperation resulted in a variety of positive outcomes, including mutual friendliness, respect, concern, and trust. It was hypothesized that the cooperative involvement of tutor-student pairs would promote the social acceptance of

the students by their tutors, and other nonhandicapped classmates. Additional support for the benefits of cooperative goal structuring was presented by Fox (1979). She found that pairing a handicapped child with a nonhandicapped student for the purpose of discovering mutual interests, resulted in increased social acceptance for both.

The Measurement of Social Acceptance

A review of the literature reveals few valid and reliable instruments for assessing social acceptance of handicapped children, although various scales and approaches have been utilized. For example, Siperstein (1978) developed an instrument with 14 Likert Scale items suitable for use with secondary level students, teachers, and other adults. Sheare (1974) developed a three point (agree, disagree, undecided) scale for use in his study of ninth graders' attitudes toward EMR students. Siperstein, Bopp, and Bak (1978) in their study of social acceptance of learning disabled (LD) students, asked children to list classmates whom they liked best; and who were the most athletic, smartest, and best looking. The authors found that LD students were less popular than their nonhandicapped peers but not socially isolated. When identified by peers, LD students tended to be rated as most athletic.

METHOD

Nonhandicapped Subjects

Sixty nonhandicapped children from five primary and five intermediate classrooms served as subjects in the study. The 23 first and second graders and the 35 fifth and sixth graders represented the total

population of students who returned signed parental permission slips, even though 153 were distributed. The distribution of these students by classroom and treatment are shown below in Tables 1 and 2.

Insert Tables 1 and 2 about here

Handicapped Subjects

Ten EMR students from the primary group and six from the intermediate group participated in the tutoring program. Five out of the 10 primary EMR students served as controls and were not given any tutorial service during the first four month period. All 10 were tutored from January through May.

Treatment. The treatment conditions were conducted for both primary and intermediate groups for a period of four months. The treatment programs for the intermediate children were conducted from September to January; for the primary children from January to May. For condition one (peer tutoring), regular students volunteered to tutor the EMR students. Tutors were systematically trained in the use of the Sullivan programmed materials, and in the use of verbal praise for reinforcement. Tutoring was conducted on a half hour daily basis. Condition two consisted of teacher class presentations about handicapped children. Commercially available materials were utilized (Kids Come in Different Flavors). In the control condition, students followed the regular class schedule.

Dependent Measures

Social acceptance. Sheare's (1974) social acceptance instrument was modified for use with elementary students but was rejected by the school district since many of the questions were considered to be leading and suggestive. Consequently, the Siperstein, Bopp, and Bak (1978) procedure was used. Students were asked to respond to the following four questions: Who are the boys/girls in class you like best, which boys/girls are the best athletes in your class, who are the smartest boys/girls in your class, and who are the best looking boys/girls in your class?

The children responded by naming their same-sexed cluster-mates who they felt met the qualifications stated in the question. Interviews were conducted individually by undergraduate and Master's level special education students, trained in the administration of the instrument. The examiner's read the following instructions to the students:

> Hello, my name is Mary. I'm going to ask you some questions about the boys/girls in the primary (advanced intermediate) community, and then I'm going to write down your answers on this paper. The questions are very easy. Let's try one. What's your name? I knew you'd get that one right. Now this one's going to be harder: Who's your homeroom teacher? Still pretty easy, heh? Now think about the boys/girls in the primary (advanced interemediate) community and answer this question.
> (Repeat the final instruction before each of the four questions.)

The examiners subsequently asked the four questions, in order, and recorded the responses. Additional responses were prompted when fewer than two children were named for any of the four questions. The dependent measure was the number of children who identified a handicapped child among their best friend or among the smartest, best looking, or most athletic of their classmates.

Achievement. The Woodcock Reading Mastery Tests/Form A (Woodcock, 1973) were used for pre- and post-treatment testing, in order to analyze the effect of peer tutoring on reading achievement of EMR students.

Design and Analysis

Social acceptance. Interviews were conducted after four months of treatment (January for the intermediate classes and May for the primary classes) in a posttest only control group design (Campbell & Stanley, 1963). Because of the low return of parental permission forms, separate analyses by age level and treatment program were impossible to conduct. Instead, the data were collapsed across levels and treatments into a 2 x 2 contingency table. Each classroom was placed according to 1) whether handicapped children were enrolled; and 2) whether the class participated in a treatment.

Achievement. The intermediate students were pretested in September on the Woodcock reading mastery tests and posttested in January. The primary students were pretested in January and posttested in May. September scores for five primary students were available permitting a comparison of improvement before and after the tutoring program.

RESULTS

Social Acceptance

In Table 3, the results of the posttest interviews are shown. The resulting distribution was significantly different from that expected by chance ($X^2 = 7.312$, $p < .01$).

Insert Table 3 about here

Achievement

The Reading Grade Scores from the Woodcock Reading Achievement Test for primary and intermediate subjects are shown in Table 4.

Insert Table 4 about here

The average improvement for the primary control subjects, prior to tutoring was 1/5 of a month. Following the four month tutorial program the average improvement for the 10 tutored students was 4.6 months. Improvement for the six intermediate students, following four months of tutoring was 1.7 months.

DISCUSSION

The generalizability of the results of this study is limited by a number of problems in the design and analysis of the experiment. First, neither the handicapped nor nonhandicapped children were randomly selected or randomly assigned to treatments. It is not often possible, however,

to randomly assign and select children for experimental conditions within the framework of a public school setting. Second, because of the small number of respondents and the low frequency with which these respondents identified handicapped children in their answers to the interview questions, the planned analyses proved impossible to conduct. Even when the data were collapsed across treatments and levels, expected frequencies in three cells were less then five. Nevertheless, all children who identified handicapped children were enrolled in integrated classrooms and participated in one or the other of the treatments.

Various problems with measurement were demonstrated. Instruments which identified the handicapped child as either a special class student or retarded were, justifiably, rejected by school board members and parents. Concerns involved the possibility of such questions "putting ideas into kids heads" and "leading" into negative attitudes. The four questions asked had been used in a previous study to measure the social acceptance of Learning Disabled (LD) students (Siperstein, 1978) and may not have been appropriate for use with EMR subjects. Additional research, to develop valid and acceptable instruments for use in measuring social acceptance of handicapped students, is clearly called for.

Future studies must also address the obtrusiveness of certain research procedures in this area. Permission forms, describing the research purpose, may introduce bias into student responses. In this study a student leaving the attitude testing session remarked, "Oh mom, said to say that I like handicapped kids too." Teacher cooperation was another problem which arose in conducting this study. The more involved the

teachers were, the more likely they were to solicit a high rate of return. Consequently, children from segregated classrooms who received no treatment were underrepresented in the sample.

On the average, both primary and intermediate EMR students exhibited increased reading achievement scores following the peer tutoring program. Gains, however, were greater for primary (4.6 months) than for intermediate students (1.7 months). First and second graders benefitted from the peer tutoring treatment to a greater degree than did fifth and sixth graders. These results support previous studies which demonstrated the effectiveness of a structured peer tutoring program (Devin-Sheehan, Feldman, & Allen, 1976). Additional support for the beneficial effects of peer tutoring at the primary level was illustrated by the primary control group's average gain scores in achievement, which were greater following, but not prior to the tutoring experience (1/5 of a month prior to tutoring, 4.6 months after tutoring), in fact two students regressed (three and two months during the pre-tutoring control period).

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Table 1

Primary Level Number of Respondents

	Peer Tutors	Class Instruction	No Program	
Integrated Classrooms	2	10	X	12
Segregated Classrooms	2	3	6	11
	4	13	6	23

Table 2

Intermediate Level Number of Respondents

	Peer Tutors	Class Instruction	No Program	
Integrated Classrooms	9	14	7	30
Segregated Classrooms	X	4	1	5
	9	18	8	35

Table 3

Distribution of Positive Responses and (Respondents)

by Treatment and Integration

Integration	Treatment: Yes	Treatment: No	
Yes	12(35)	0(7)	12(42)
No	0(9)	0(7)	0(16)
	12(44)	0(14)	12(58)

Table 4

Woodcock Reading Grade Scores in Years and Months

for Tutored Students

		September	January	May
Primary	S_1	1.6	1.3	1.6
	S_2	1.5	1.6	2.2
	S_3	1.3	1.5	2.1
	S_4	2.0	1.8	2.0
	S_5	1.8	2.1	2.6
	S_6		1.9	2.0
	S_7		1.5	2.2
	S_8		1.1	1.4
	S_9		1.1	2.0
	S_{10}		1.5	1.9
Inter-mediate	S_1	1.6	1.7	
	S_2	2.4	2.4	
	S_3	2.3	2.3	
	S_4	1.7	2.4	
	S_5	1.7	1.9	
	S_6	1.7	1.9	